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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,165	09/12/2003	Cheng-Te Chuang	MTKP0047USA	2164

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EXAMINER

MCLEAN MAYO, KIMBERLY N

ART UNIT	PAPER NUMBER
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2187

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/605,165	Applicant(s) CHUANG ET AL.	
	Examiner Kimberly N. McLean-Mayo	Art Unit 2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2006.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 9-14 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,3-7 and 9-14 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The enclosed detailed action is in response to the Amendment submitted on January 2, 2006.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-4 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn (USPN: 6,564,283) in view of Kaneko (USPN: 5,146,581).

Regarding claims 1, 4, 9 and 11, Ahn discloses a method for managing an external memory of a microprocessor to achieve more available capacity comprising an address translator and using the address translator to translate a page [memory bank] of the external memory and an address within the page pointed to by the processor to a physical address of the external memory (Figure 2A, 2B; C 1, L 52-64), each common area (interrupt routine area) pointed to by the microprocessor being mapped to a section of the external memory (C 1, L 64-67; the interrupt routines performed by the processor [and is thereby addressed/pointed to by the processor] are stored in reserved regions of the memory banks) and using the microprocessor to access data stored at the physical address of the external memory (the microprocessor generates the 16 bit address for the external memory access which is used to access data stored in the external memory). Ahn does not disclose mapping a common area of each page pointed to by the

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microprocessor to a common area of the external memory; instead Ahn's system maps the common area (interrupt routine) of each page to multiple common areas of the external memory. Kaneko teaches storing (and thereby mapping) the interrupt routine to a single common area of the external memory (C 10, L 47-68; C 11, entire and C 12). Kaneko teaches that this feature provides efficient utilization (C 16, L 52-55). Additionally, Kaneko teaches that storing the interrupt program in each memory bank consumes too much of the memory, thereby causing the memory area for storing programs to be narrow (C 3, L 25-31). Hence, one of ordinary skill in the art would have recognized the benefits of Kaneko's teachings and would have been motivated to incorporate such in the system taught by Ahn for the desirable purpose of efficient memory utilization.

Regarding claims 3 and 10, Ahn discloses the external memory having a plurality of non-common areas (the remaining areas of the memory banks excluding the interrupt routines).

4. Claims 5-6 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn (USPN: 6,564,283) and Kaneko (USPN: 5,146,581) in view of Applicant's submitted prior art Intel Application Note Migrating from the MCS @51 Microcontroller to the MCS 251 Microcontroller (8XC251SB) - software and hardware.

Ahn and Kaneko disclose the limitations cited above, however, Ahn and Kaneko do not disclose using a 8-bit microprocessor nor using a MCS series microprocessor. However, Intel discloses that the MCS 251 8 bit processor is a low-cost, low-risk, easy and high performance controller (Introduction; page 4 and 5). Hence, it would have been obvious to one of ordinary skill in the

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art to use the teachings of Ahn and Kaneko with a MCS 8 bit processor for the desirable purpose of low risk, low cost and high performance.

5. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn (USPN: 6,564,283) and Kaneko (USPN: 5,146,581).

Regarding claim 7, Ahn and Kaneko disclose the limitations cited above, however, Ahn and Kaneko do not explicitly disclose a flash memory device. Flash memory devices are well known in the art for retaining data stored therein when the device is not being powered. Thus, it would have been obvious to one of ordinary skill in the art to use a flash memory in the system taught by Ahn and Kaneko for the desirable purpose of data retention upon power loss.

Response to Arguments

6. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

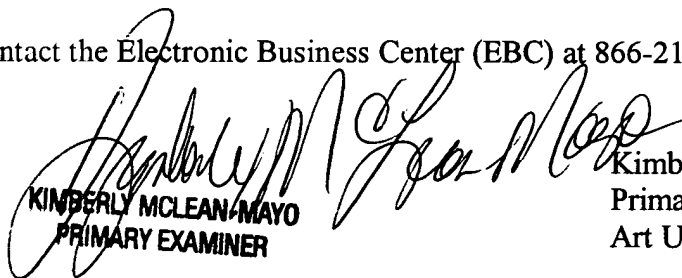
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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly N. McLean-Mayo whose telephone number is 571-272-4194. The examiner can normally be reached on Mon, Wed, Thurs (10-4), Tues (9:45 - 6:15).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 571-272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KIMBERLY MCLEAN-MAYO
PRIMARY EXAMINER

Kimberly N. McLean-Mayo
Primary Examiner
Art Unit 2187

KNM

March 12, 2006